

Work Order ID 131663

Tuesday, April 21, 2015 9:03:54 AM

131663

Page 1

Item ID: D3795-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Ski Mid
Start Date: 4/21/2015 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 5/1/2015 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: MF Date: 15-4-21 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3795	C

110 FLOW WATER JET 0.00 2 0 Jm15-4-21

110 Waterjet Memo 0.00

FLOW CNC Waterjet 1-Cut as per Dwg File D3795-3 Blank

OHmw 1"

2-Deburr if necessary

120 HAAS CNC VERTICAL MACHINING #1 0.00

120 HAAS 1 Memo 0.00

HAAS CNC vertical machine #1 1- Mill as per Folio FA732 Rev: C & Dwg D3795 Rev: C

2-Deburr per dwg D3795

2 0 DAS 44 15/04/30
9-89

130 QC2- Inspect parts off machine FAI/FAIB 0.00

130 QC Memo 0.00

Quality Control

2 0 DAS 44 15/04/30
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Work Order ID 131663

Tuesday, April 21, 2015 9:03:54 AM

131663

Page 2

Item ID: D3795-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Ski Mid

Start Date: 4/21/2015 Start Qty: 2.00

2

Cust Item ID:

Required Date: 5/1/2015 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

QC8- Inspect parts - second check

0.00

140

QC

Memo

0.00

Quality Control

DAS

14

9-89

15/05/01

150

Identify as per dwg & Stock Location: _____

0.00

150

Packaging

Memo

0.00

Packaging

DAS
6
9-89

2

MAY 01 2015

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.00

Quality Control

MAY 04 2015

MLJ

MLJ

MAY 04 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
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Picklist Print

Tuesday, April 21, 2015 10:09:39 AM

Page 1

Work Order ID: 131663

131663

Parent Item: D3795-3

D3795-3

Parent Item Name: Ski Mid

Start Date: 4/21/2015

Required Date: 5/1/2015

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP Rev:A New Issue 08-07-18 JLM Verified By:DD
 IPP Rev:B 08-09-10 revA as per dwg (ecn 08-513) DD VERF:EC IPP
 REV:C 12.09.06 PER DWG REV.B DD VERF:JFS IPP REV
 C:12.09-12 AS PER REV C JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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MUHMWB10

Purchased

No

sf

701.8420

MUHMWB10

**

5.32
6

Jm15-4-21

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

Location

Loc Qty

Loc Code

MAT

608.475

m131661

208.475

m132063

400

MAT018

93.367

m131335

93.367

131661

DQA: _____ Date: _____



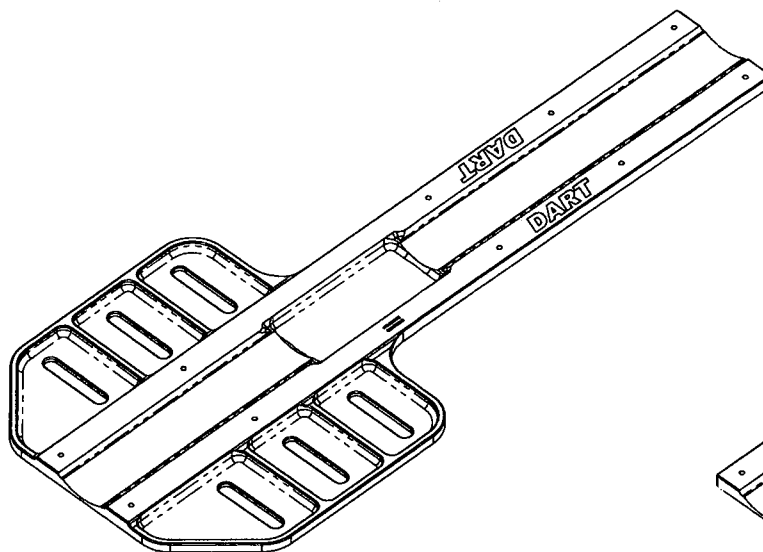
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

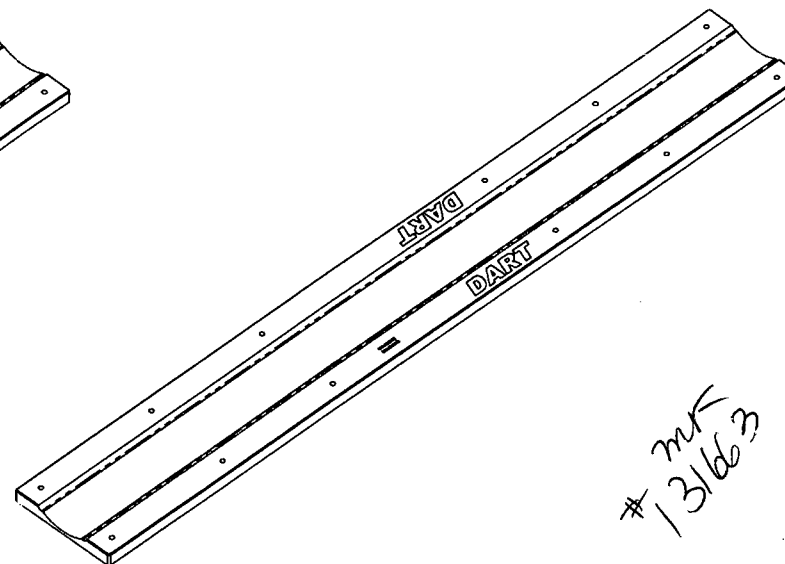
Work Order update only ☐

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
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Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						



D3795-1 412 SKI - FWD SECTION



D3795-3 412 SKI - MID SECTION

mrf
1/31/63

RELEASED
2012-09-12

NOTES:

- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL
REF DART SPEC MUHMWB
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: - ENGRAVE WITH DART P/N "D3795-X" AND B/N "BXXXXX" USING 0.13 HIGH LETTERS TO MAX DEPTH OF 0.010
- ENGRAVE WITH DART LOGO USING 1.00 HIGH LETTERS TO MAX DEPTH OF 0.012
- 7) WEIGHT: D3795-1 = 9.37 lbs
D3795-3 = 7.90 lbs

C	REMOVED UNNECESSARY COUNTERBORED HOLES IN D3795-3 (C5-3, D5-3)	AP	12.09.06
B	CHAMFER WAS 0.31 x 45° NOW 0.19 x 45° (B1-3)	AP	12.08.01
A	NEW ISSUE	MB	08.07.08
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	SP	DRAWING NO.	REV. C
MFG. APPR.	SP	D3795	SHEET 1 OF 3
APPROVED	MB	TITLE	SCALE
DE APPR.	MB	412 SKI SECTIONS	NTS
DATE	12.09.06	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____

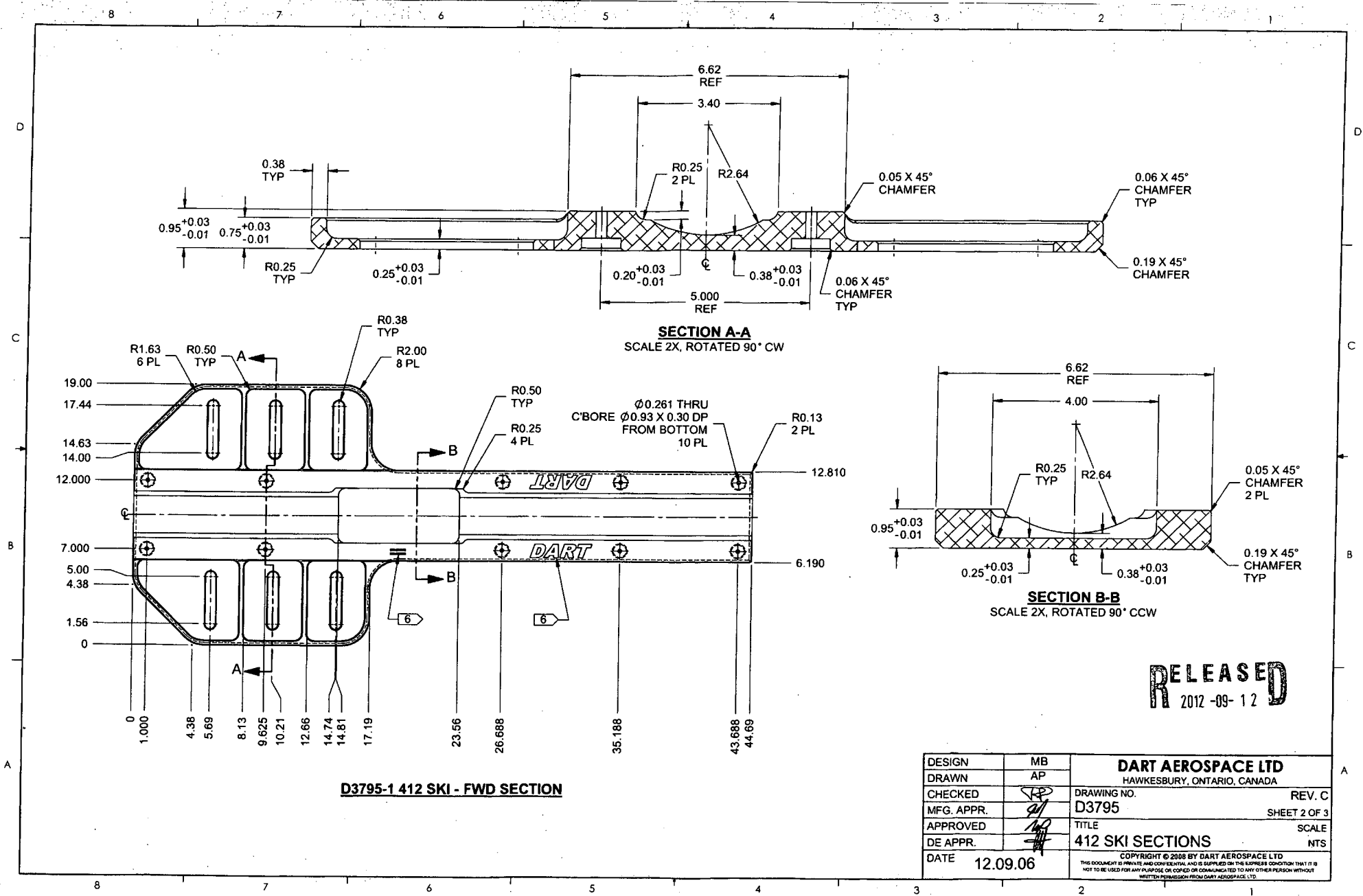


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D3795-1 412 SKI - FWD SECTION

RELEASED
2012-09-12

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	CP	DRAWING NO.	REV. C
MFG. APPR.	DI	D3795	SHEET 2 OF 3
APPROVED	AP	TITLE	SCALE
DE APPR.	AP	412 SKI SECTIONS	NTS
DATE	12.09.06	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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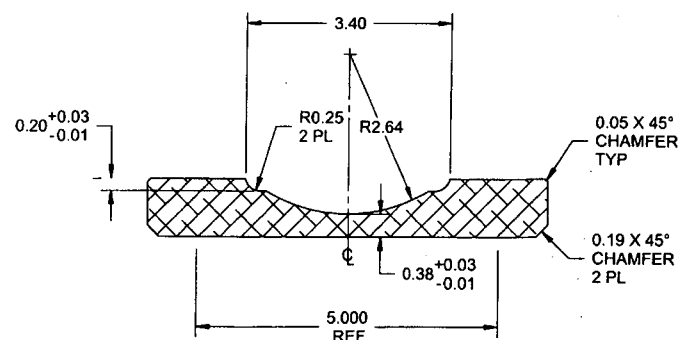
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D3795-3 412 SKI - MID SECTION



SECTION C-C
SCALE 2X

RELEASED
2012-09-12

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO. D3795	REV. C
MFG. APPR.	AP	SHEET 3 OF 3	
APPROVED	AP	TITLE 412 SKI SECTIONS	SCALE NTS
DE APPR.	AP	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
DATE	12.09.06	THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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DART AEROSPACE LTD		Work Order: 131062
Description: Ski, Mid Section		Part Number: D3795-3
Inspection Dwg: D3795	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.13	+/-0.030	.13	✓		R-G.	
Ø0.261	+0.006/-0.001	.260	✓		Vern	FK-04
Ø0.93	+/-0.030	.927	✓		"	"
0.30	+/-0.030	.308	✓		"	"
48.00	+/-0.030	48.00	✓		Tape	FK-05
47.000	+/-0.010	47.000	✓		"	"
39.333	+/-0.010	39.333	✓		"	"
31.667	+/-0.010	31.667	✓		"	"
24.000	+/-0.010	24.000	✓		"	"
16.333	+/-0.010	16.333	✓		"	"
8.667	+/-0.010	8.667	✓		"	"
1.000	+/-0.010	1.000	✓		Vern	FK-04
0.95	+0.030/-0.010	.947	✓		"	"
0.050 x 45°	+/-0.010 x +/-0.5°	.050 x 45°	✓		"	"
0.19 x 45°	+/-0.030 x +/-0.5°	.19 x 45°	✓		"	"
0.38	+0.030/-0.010	.375	✓		"	"
5.000	+/-0.010	5.004	✓		"	"
0.063 x 45°	+/-0.010 x +/-0.5°	.063 x 45°	✓		"	"
0.20	+0.030/-0.010	.202	✓		"	"
R25	+/-0.030	.25	✓		R-G.	
3.40	+/-0.030	3.395	✓		Vern	FK-04
R2.64	+/-0.030	2.64	✓		R-G.	

Measured by: DAS 44 9-89	Audited by: DAS 14 9-89	Preliminary Approval:
Date: 15/04/30	Date: 15/05/01	Date:

Rev	Date	Change	Revised by	Approved
A	12.07.31	New Issue	KJ	
B	12.09.26	Dimensions updated per Dwg Rev C	KJ	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
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